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Heart Transplants: Legal Problems and the Need for New Legislation

In recent months, medical science has begun to develop a new surgical technique, the heart transplant, which, if completely effective, will prolong the life of the terminal heart patient. Including the first transplant by South Africa's Dr. Christiaan Barnard, 21 transplants have been attempted thus far. Of the first five recipients of transferred hearts, only one, Dr. Philip Blaiberg, who was Dr. Barnard's second patient, has survived. While the question of the moral and ethical considerations of experimentation on human beings is thus raised, it will be sufficient for the purposes of this Note to acknowledge the fact that the surgeons who per-

1 The new technique has brought particular recognition to the doctors involved. Dr. Christiaan Barnard, the South African surgeon who performed the first human heart transplant operation, graced the cover of a national news magazine, TIME, Dec. 15, 1967, and a few days later was the guest of honor on a television news program which dealt with some of the legal and moral issues raised by that operation. NBC News Special, A Conversation with Dr. Christiaan Barnard, Dec. 31, 1967 [hereinafter cited as NBC Special, transcript]. Dr. James Hardy of the University of Mississippi had once attempted a transplant of a chimpanzee's heart into a man, but the attempt failed after the passage of less than 2 hours. TIME, Dec. 15, 1967, at 71; NEWSWEEK, Dec. 18, 1967, at 89. Dr. Barnard was thus the first to transplant a heart from one human to another.

2 Lear, A Realistic Look at Heart Transplants, SATURDAY REV., Feb. 3, 1968, at 57. Dr. Barnard's first patient, Louis Washkansky, received the heart of a young woman killed in an automobile accident. Dr. Barnard's overnight fame was scarcely tarnished by Washkansky's death just 18 days later. J.A.M.A., Jan. 8, 1968, at 37; TIME, Dec. 29, 1967, at 32. The second transplant was performed by Dr. Adrian Kantrowitz in Brooklyn, New York. His patient, an infant, died only 6½ hours after receiving another infant's heart. TIME, Dec. 15, 1967, at 65-66. Dr. Kantrowitz's failure in that case and in his second attempt have been almost overlooked because of the publicity attending the other three relatively successful operations. This attempt failed because the donated heart was too small, and caused Dr. Moses Tendler of Yeshiva College's biology department to criticize Kantrowitz for making the attempt. N.Y. Times, Feb. 15, 1968, at 47, col. 4.

California's Dr. Norman Shumway, who had announced that medical science was ready to attempt a heart transplant even before Dr. Barnard operated on Washkansky, became the third surgeon to attempt the feat when he replaced Mike Kasperak's heart with the heart of a woman who had died of a brain hemorrhage. Lear, supra at 56-57. Kasperak survived for 16 days and was the subject of a fantastic variety of medical procedures and surgical operations before he succumbed. Id.

The operation performed on Dr. Blaiberg is important in two additional respects: Not only did the transplanted heart start immediately without stimulation, but Dr. Blaiberg was a white South African whose life was prolonged by the heart of a "colored" donor. TIME, Jan. 12, 1968, at 38. A "colored" person in South Africa is not a true Negro but is of mixed ancestry. Id. Dr. Barnard claims that Negro Africans make better donors because they are less prone to coronary disease. He has also stated that interracial transplants raise no political problems in South Africa. NBC Special, transcript at 4-5. For another interesting discussion of legal problems in transplantation, see Note, Legal Problems in Donations of Human Tissues to Medical Science, 21 VAND. L. REV. 352 (1968).
formed these operations did so only after a considerable amount of research had been conducted, including the development of other cardiac surgery techniques, experimental research with dogs, and the experience of surgeons in renal transplants. This article will explore the complex legal problems confronted by the transplant donor, donee, and surgeon, while illustrating the need for new and comprehensive legislation to alleviate many of the problems. Some solutions will also be proposed. Although many of the issues and approaches are unique to cardiac transplants, some analogous situations which have arisen in the context of renal transplantation will be referred to on appropriate occasions.

I. THE GIVER OF LIFE

A. The Legal Means of Donating a Heart

A dead body has often been considered the property of the deceased's family, or at least the family traditionally has been said to have a quasi-property right to have the body buried and the remains preserved. Some form of authorization has therefore been necessary for removal of organs or for use of the body or its parts. Many jurisdictions have statutes which prohibit dissection or autopsy without prior authorization by either the deceased, or by his next of kin after his death. Civil liability is often imposed for unauthorized removal of organs. For these reasons, organ transplantation

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8 Over many years, heart surgeons developed the heart-lung machine to keep patients alive during heart surgery, learned to replace or repair blood vessels, created artificial heart valves, made use of new antibiotics, and invented the electrical pacemaker. These techniques are now almost routinely employed. See H. Schmeck, The Semi-Artificial Man 68-89 (1965).

4 Dr. Shumway was very active in research with dogs and published several papers on his work. Dr. Barnard also experimented with animals but did not publish his results. Lear, supra note 2, at 56.

5 See H. Schmeck, supra note 3, at 19-43.

6 See 25A C.J.S. Dead Bodies § 2 (1966), and cases cited therein. One court stated:

There is no strict property in a corpse. . . . But the law has always given it great consideration. The right to possess, preserve, and bury it belongs in the absence of testamentary direction to the surviving spouse if there is one, and if not to the next of kin, who may maintain an action for a deprivation of the right of sepulture or a mutilation of the body. Travelers Ins. Co. v. Welch, 82 F.2d 799, 801 (5th Cir. 1936).

7 For example, according to the law of New York: "A person who makes, or causes or procures to be made, any dissection of the body of a human being, except by authority of law, or in pursuance of a permission given by the deceased, is guilty of a misdemeanor." N.Y. PBN. LAW § 2214 (McKinney 1967).

8 E.g., CAL. HEALTH & SAFETY CODE §§ 7113, 7115 (West Supp. 1967).

9 Liability has been imposed for any unauthorized or negligent mutilation of the body. See 25A C.J.S. Dead Bodies § 8(3) (a) (1966), and cases cited therein.
is unlikely to flourish in any jurisdiction which lacks legislation delineating the steps a donor must take to leave his body, or a part of it, to medical science.\textsuperscript{10}

Probably because of the popular recognition of kidney and corneal transplants, many forward-looking State legislatures have recently enacted statutes prescribing how and by whom a body or an organ may be donated.\textsuperscript{11} The prerequisites for donation are generally similar to the requirements governing the execution of a will. Thus, the donor may provide for the disposition of his body or a part of it, if he has legal capacity,\textsuperscript{12} by a written instrument. This will or separate instrument\textsuperscript{13} must be attested to by two witnesses.\textsuperscript{14} In some cases the instrument must specify the use to which the organ will be put, or if such specification is absent, the donee or hospital may make this decision. Some statutes provide for general authorization for use of the body or organ to advance medical science, education, or for replacement or rehabilitation of diseased or worn out organs.\textsuperscript{15} The donee may be named in the instrument. If no donee is named, the statutes generally permit the hospital, attending physician, or State board of health to be considered the donee.\textsuperscript{16} The authorizing instrument must sometimes be filed with

\textsuperscript{10}Wasmuth, \textit{Legal Aspects of Organ Transplantation}, 46 \textit{Anesthesia & Analgesia} 25 (1967).
\textsuperscript{11}E.g., ARK. STAT. ANN. § 82-408 (1960); CAL. HEALTH & SAFETY CODE §§ 7113, 7115 (West Supp. 1967); COLO. REV. STAT. ANN. § 91-3-9 (1964); CONN. GEN. STAT. ANN. § 19-139c (Supp. 1966); IND. ANN. STAT. § 6-510 (Supp. 1967); KY. REV. STAT. ANN. §§ 311.352-354 (1963); LA. REV. STAT. ANN. §§ 17:2351-55 (1963); MICH. STAT. ANN. §§ 14.523 (1)- (7) (Supp. 1968); N.M. STAT. ANN. §§ 12-11-1 to -5 (Supp. 1967); N.C. GEN. STAT. §§ 90-216.1-4 (1965); OHIO REV. CODE ANN. § 2108.01 (Page 1967 Current Service); OKLA. STAT. ANN. tit. 63, §§ 105-08 (1964); PA. STAT. ANN. tit. 35, §§ 5001-05 (1964); TENN. CODE ANN. §§ 32-601 to -08 (Supp. 1967); TEX. REV. CIV. STAT. ANN. art. 4590-1 (1960), \textit{as amended} (Supp. 1967); WASH. REV. CODE ANN. §§ 68.08.250-280 (1962); WIS. STAT. ANN. 155.06 (Supp. 1967). A more comprehensive list of State statutes relating to donation may be found in Note, \textit{supra} note 2, at 359 n.44.

\textsuperscript{12}For example, Michigan requires that the donor be of "full age and sound mind." MICH. STAT. ANN. § 14.523(1) (Supp. 1968). Ohio requires that the donor be over 21 and of sound mind. OHIO REV. CODE ANN. § 2108.01 (Page 1967 Current Service). Wisconsin requires that the donor be age 21 and of sound mind. WIS. STAT. ANN. § 155.06 (Supp. 1967).

\textsuperscript{13}E.g., CAL. HEALTH & SAFETY CODE § 7113 (West Supp. 1967); IND. ANN. STAT. § 6-510 (Supp. 1967); OHIO REV. CODE ANN. § 2108.01 (Page 1967 Current Service); TEX. REV. CIV. STAT. ANN. art. 4590-1, §§ 1-2 (Supp. 1967).

\textsuperscript{14}E.g., IND. ANN. STAT. § 6-511 (Supp. 1967) (two witnesses necessary for non-testamentary disposition); OHIO REV. CODE ANN. § 2108.01 (Page 1967 Current Service); WIS. STAT. ANN. § 155.06 (Supp. 1967).

\textsuperscript{15}E.g., MICH. STAT. ANN. § 14.523 (1) (Supp. 1968); TEX. REV. CIV. STAT. ANN. art. 4590-1, § 2 (Supp. 1967); WASH. REV. CODE ANN. § 68.08.250 (1962).

\textsuperscript{16}E.g., OHIO REV. CODE ANN. § 2108.02 (Page 1967 Current Service); TEX. REV.
the donee hospital or physician. Revocation may be made by a subsequent instrument which in some cases must be delivered to the stated donee. If all requirements are met, State law generally absolves the donee from liability. Some problems arise, however, in those jurisdictions which do not permit removal of the organ until after the funeral rites, since a heart can survive for only a short time after death. Ohio, which follows the wills analogy scheme, has taken this problem into consideration.

Many of the jurisdictions that treat the body of a deceased person as property have provided for the bequest of organs in a manner similar to that provided for chattels and have accordingly amended their wills statutes. This type of legislation may be a

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21 Ohio's recent legislation provides a good example of a comprehensive statute. Section 2108.01 of the Ohio Revised Code permits a person of sound mind who is over the age of 21 to make a gift of all or any part of his body by a written instrument signed by the donor which becomes effective on his death. It requires attestation by two witnesses who have no affiliation with the donee or donee institution. The instrument is effective without delivery or acceptance and may be revoked in the manner by which the instrument was executed. The problem of funeral services is alleviated in the case of transplants since the next of kin may make funeral arrangements before the body is claimed by the donee only if the entire body has been donated. The problem of family conflict is also alleviated since the rights of a donee or his agent are superior to those of the donor's spouse, relatives, guardian, or others — subject to limitations in the instrument. If only a gift of an organ is made, custody of the body is transferred to the next of kin immediately after removal.

Section 2108.02 of the Ohio Revised Code expressly permits the naming of certain types of donees. For transplant purposes, the most important are: a named individual; a licensed physician, surgeon, or hospital; nonprofit blood banks, artery banks, eye banks, or other storage facilities for human parts to be used in therapy or transplantation. The statute also provides that if the donor provides for donation to a specified donee, but this transplantation proves unfeasible, removal for transplantation is permitted for the benefit of any person by a licensed physician or surgeon, who is the alternative donee for the originally designated donee.

Finally, section 2108.03 exempts from civil liability any person who acts in good faith while relying on the authorization of the above provisions if such person has no knowledge of a revocation. Also absolved from liability is any person who unknowingly fails to execute the donor's wishes.

22 Compare Ind. Ann. Stat. § 6-510 (Supp. 1967) (changing the law of wills in Indiana to permit bequest by the body or its parts), with Cal. Health & Safety Code...
logical modification of the common law theory that the next of kin has a quasi-property right in the body for the purpose of burial. This approach is objectionable from a moral standpoint since it tends to degrade the human body to the level of a mere machine with interchangeable parts.\textsuperscript{23} Other States have chosen the preferable course of amending their health laws to allow a donor\textsuperscript{24} or his next of kin to dispose of the body or organs by a gift for medical use.\textsuperscript{26}

Some jurisdictions have statutes which specifically permit the surviving spouse or the next of kin of a deceased person to donate the body or organs, even if the deceased has not executed a formal document expressing his intent to make the gift.\textsuperscript{26} Such a provision is necessary if heart transplants are to be successful because the time element is more crucial in heart transplant cases than in kidney transplants.\textsuperscript{27} No mechanical heart is as effective as the artificial kidney, and the techniques of preserving and storing hearts are not as well developed as those for kidneys.\textsuperscript{28} In addition, prospective heart donors are often dead or comatose, so that such donors cannot give consent for the necessary removal operation.\textsuperscript{29} Therefore,

\textsuperscript{23}A Nobel Prize-winning geneticist has been quoted as saying that the immune reaction barrier has prevented the dehumanization of the body and that when that barrier falls the personality of the body will be jeopardized. \textit{H. Schmeck, supra} note 3, at 200. The property approach may also make it conceptually more difficult for a jurisdiction to permit donation by the next of kin since the deceased has the right to dispose of the body by his will but the surviving spouse and next of kin have only the quasi-property right to burial. See 35 N.C.L. REV. 653, 655 (1955). It would seem that even in those States, a new property right in the surviving spouse or next of kin for purposes of donation of the body or organs could be recognized. There are numerous jurisdictions which do not take the property approach and do not specifically permit donation by the surviving spouse or next of kin. E.g., \textit{Conn. Gen. Stat. Ann.} § 19-139c (Supp. 1966); \textit{Okla. Stat. Ann.} tit. 63, §§ 105-08 (1964); \textit{Pa. Stat. Ann.} tit. 35, §§ 5001-03 (1964).


\textsuperscript{26}E.g., \textit{Wash. Rev. Code Ann.} § 68.08.260 (1962).

\textsuperscript{27}J.A.M.A., Nov. 20, 1967, at 31.

\textsuperscript{28}Id.

\textsuperscript{29}Kidney donations do not pose this problem since the donors are not in danger of death and generally survive after the removal of one kidney. Wasmuth, \textit{supra} note 10, at 25. While some transplant statutes are similar to will statutes, kidney transplants would seem to be more appropriately analogous to inter vivos gifts since kidney donors usually live after the removal of one kidney. The proposed Uniform Anatomical Gift Act provides for donation by next of kin unless the decedent has expressed a contrary wish. Note, \textit{supra} note 2, at 364-66.
without statutory provision for donation by someone other than the donor himself, few hearts will be available for transplantation. None of the recent transplants involved an instrument executed by the donor. Dr. Barnard accepted the heart for his second operation without the consent of the donor’s wife, although the donor’s mother did consent. Dr. Shumway was more careful in the Kasperak case as evidenced by the consent he obtained from the donor’s husband and both of her children. Perhaps Dr. Shumway’s caution is explained by the traditional conservatism of the American medical profession in making decisions having legal consequences, since the consent of either the husband or either child, if he was not a minor, would have sufficed under the California statute.

It is not clear whether the next of kin of a deceased donor could block the removal of an organ bequeathed to medical science by a valid instrument. Presumably, if the next of kin were opposed to such a disposition they could seek an injunction relying on their common law quasi-property right to the body. Some statutes have eliminated this problem by providing specifically that the next of kin must cooperate with the donee. Although it seems clear that the donor’s expressed intent should prevail, statutory clarification is desirable because the lack of cooperation by the next of kin would make a transplant impossible due to the delay and would thus defeat the donor’s purpose.

Another problem may arise from the execution of a donative instrument by a person who has no authority to do so. The statutes

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30 Lear, supra note 2, at 56.
31 TIME, Jan. 12, 1968, at 38. In cases like this, one wonders whether consent of the next of kin so soon after the donor’s death should be permitted because of the bereaved person’s emotional state.
32 Lear, supra note 2, at 56.
34 Wasmuth, supra note 10, at 25.
35 See text accompanying note 23 supra. They will be able to argue that the donor lacked the capacity to make a valid instrument if it was executed shortly before his death. Wasmuth, supra note 10, at 25; see note 12 supra and accompanying text. A rule of law might be developed which would invalidate the donor’s instrument if executed too close to the time of death. Cf. T. ATKINSON, WILLS § 35 (1953). Mortmain statutes are generally enacted to prevent undue influence being placed on the deceased to donate his property to charity just prior to the time of his death. It seems that there is more reason for restricting gifts of “property” to charity than for limiting gifts of organs, since the latter do not financially injure the next of kin.
36 E.g., CONN. GEN. STAT. ANN. § 19-139c (Supp. 1966). In Tennessee the donor’s spouse and next of kin, if they have actual knowledge of the donative instrument, have no right to possession of the body until after removal of the organ. TENN. CODE ANN. § 32-606 (Supp. 1967). Louisiana provides a criminal penalty for obstructing the disposition prescribed by the instrument. LA. REV. STAT. ANN. § 17:2355 (1963).
which permit the donation of organs by the donor's next of kin generally resolve this problem by providing that a hospital or a doctor who relies on an invalid instrument in good faith is absolved from liability. 37

The problem of assuring that a donor's wishes are carried out no matter where he dies, has prompted some suggestions of uniform or federal legislation to cover the cases where a donor dies outside his home State. 38 Some proposals would create a universal identification card or tag for donors. 39 Of course, if the donor designated the Cleveland Clinic as the donee of his heart but died in Los Angeles, even a uniform or federal statute would probably not make it possible for the Cleveland Clinic to obtain the heart in usable condition because of the inadequacy of present preservation techniques. 40 Therefore, either the applicable statute or the donor's instrument should provide that the hospital in which he dies or that his attending physician is the alternative beneficiary. 41

At present, there is a desperate shortage of both donated kidneys 42 and hearts. It is likely that if heart transplantation continues to progress rapidly the shortage of hearts will be even more extreme because of the obvious impossibility for donors to give their hearts and yet continue to live as kidney donors often do. 43 Thus, at least initially, heart transplants will probably be less numerous than kidney transplants. 44 Even so, new legislation to facilitate donation is vital to prevent a critical shortage of transplantable hearts.

37 E.g., IND. ANN. STAT. § 6-512 (Supp. 1967); TENN. CODE ANN. § 32-608 (Supp. 1967); WIS. STAT. ANN. § 155.06 (Supp. 1967).
41 Some statutes so provide if no beneficiary is designated. E.g., TEX. REV. CIV. STAT. ANN. art. 4590-1 (Supp. 1967); WASH. REV. CODE ANN. § 68.08.280 (1962).
42 NEWSWEEK, Dec. 18, 1967, at 90. Currently, only one-seventh of the patients who could be treated by hemodialysis or renal transplantation are receiving such treatment. J.A.M.A., Nov. 20, 1967, at 29.
43 Dr. Kantrowitz cites the fact that about 400,000 Americans will die this year of heart attacks and he doubts that an equal number of donors can be found. NEWSWEEK, Dec. 18, 1967, at 90.
44 Shortages of funds, facilities, and transplant surgeons will be very serious in the next few years. Dr. Barnard estimates that only about 1 percent of the patients who need such an operation will get it. NBC Special, transcript at 2. To improve present methods of storage of donated hearts, Dr. Barnard suggests either (1) the use of a system which supplies nourishment to the heart and which lowers the rate of heartbeat or (2) storage in another animal. The latter has been done with kidneys. Id. at 3.
B. The Time of the Donor's Death

Obviously a heart donor would be unlikely to permit his heart to be taken from him until his death. This, combined with the necessity for speed in removing the donor's heart and placing it in the recipient, necessitates a definite standard which comports with modern medical knowledge for fixing the time of death. The law has thus far failed to provide such a standard.45 "Death" is commonly defined legally as the "cessation of life,"46 a definition which is tautologous.

In an effort to be more precise, a California court has defined death as the point at which "the heart stops beating and respiration ends."47 Several medical authorities have argued that the cardiorespiratory test fixes the time of legal death too late in many cases.48 They assert that "brain death" often occurs before the cardiorespiratory system is restarted by the resuscitation devices which are now in general use.49 "Brain death" is described by one physician as follows:

When there is extensive brain damage, the dying nervous system disintegrates by steps and the person dies in stages. First there occurs "clinical or medical death" at which moment spontaneous respiration and circulation cease. "Biological death," or permanent extinction of life, quickly follows unless reanimation procedures are started. If this is done, the brain may be stimulated to function for a time. Nevertheless, at this stage, the patient is immobile with atonic muscles. There are no reflexes. There is no reaction to pain. All vegetative regulations, such as body temperature, cease. Only the heart continues to function. An electroencephalographic (EEG) tracing is totally flat and this many physicians believe justifies the conclusion that the central nervous system is dead.50

Dr. Barnard is a firm believer in the "brain death" theory. He has stated that South African law requires the conjunction of three factors to constitute death: (1) lack of reflexes for a certain period; (2) lack of spontaneous respiration for a certain period; and (3)

45 Wasmuth, supra note 10, at 25; Ayd, When is a Person Dead?, MEDICAL SCI., Apr. 1967, at 33-34.
46 BLACK'S LAW DICTIONARY 488 (4th ed. 1951); STEDMAN'S MEDICAL DICTIONARY 412 (2d Lawyers' ed. 1966).
48 E.g., Fletcher, Prolonging Life, 42 WASH. L. REV. 999, 1001 (1967); Ayd, supra note 45, at 35.
49 Ayd, supra note 45, at 35.
50 Id.
no electrical activity of heartbeat. According to Dr. Barnard, if any one of these factors is present, the patient is medically, even if not legally, dead.\textsuperscript{61} Heart transplant surgeons naturally would like to establish the medical death of the donor at the earliest ascertainable time because after heartbeat and respiration ceases, anoxia rapidly sets in and permanently damages the heart.\textsuperscript{52} If the heart is to be in transplantable condition, no more than $\frac{1}{2}$ hour can pass between heart stoppage and removal.\textsuperscript{53} According to Dr. Shumway, the fact that the heart will work outside the body does not indicate that it should not have been taken from the donor's body because "the period between death and removal of the heart encompasses the onset of irreversible brain damage in the donor."\textsuperscript{54} Thus, even if cardiorespiratory stoppage occurs before brain failure, the brain function will cease before the heart can be removed.

To stimulate heart transplantation, a State could legislate a time-of-death standard which is based on the criterion of "brain death." The argument that once the brain has ceased to function the patient is no longer a person but a mere vegetable being kept "alive" by resuscitative measures is persuasive.\textsuperscript{65} It has been argued that the physician is under no duty to use extraordinary efforts to keep the patient alive when death is near and inevitable.\textsuperscript{66} This theory would seem to permit the attending physician to stop resuscitation whenever it became an "extraordinary effort" as, for example, when brain function had ceased for a considerable period. Thus, the attending physician, after "brain death" had occurred, would be able to set the time when the heart could be removed.\textsuperscript{67}

The "brain death" problem will require careful evaluation by legislators, but it must be confronted if heart transplantation is to be legally regulated.

\section*{II. Long Live the Patient}

\subsection*{A. Selection of the Recipient}

The medical decision that a patient should receive a heart trans-

\begin{itemize}
\item \textsuperscript{61} NBC Special, transcript at 23.
\item \textsuperscript{62} J.A.M.A., Nov. 20, 1967, at 31.
\item \textsuperscript{63} Id. This causes additional complications where the statute permits removal only after the funeral service.
\item \textsuperscript{64} J.A.M.A., Nov. 20, 1967, at 32.
\item \textsuperscript{65} See Ayd, supra note 45, at 35; J.A.M.A., Oct. 12, 1964, at 120. The proposed Uniform Act makes no attempt to define time of death. Note, Legal Problems in Donation of Human Tissues to Medical Science, 21 VAND. L. REV. 352, 371 (1968).
\item \textsuperscript{66} Ayd, supra note 45, at 34; Fletcher, supra note 48.
\item \textsuperscript{67} Wasmuth, supra note 10, at 27.
\end{itemize}
plant is a complex and difficult one according to Dr. Shumway,[58] whose experience with Mike Kasperak amply illustrates the problem. Since there is a shortage of donors, there is a need to develop rational, systematic ways of choosing one patient over another.[59]

The decision as to who needs a transplant and who would have a reasonable chance of survival with a new heart should turn on medical factors. Doctors bear a heavy responsibility here since it is nearly impossible to legislate standards or to have a court decide such questions, except in cases in which medical discretion is abused.

There are other criteria, such as ability to pay, and the person's value to the community, which are not medical questions but which may be decided by transplant surgeons. Policymakers would do well to consider the approach taken in the selection of kidney recipients in Seattle, Washington. There, a seven-man committee of laymen has been established to weigh the nonmedical factors in patient selection. The committee makes its choices on the basis of objective facts about each prospective patient and without meeting any of them personally.[60] Such a plan injects community values into the selection process much as the jury injects community values into a criminal trial. It should be noted, however, that because heart transplantation is an emergency procedure at present,[61] the committee plan is not yet feasible.

Under any plan, there remains the danger that some influential or wealthy patients will be able to force their way to the head of the line. This may already have been attempted with Dr. Barnard.[62] To alleviate this problem, kidney transplants have been performed without charge to the patient,[63] but no system can completely eliminate the financial factor.[64] Of course, a State might

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[60] Id. However, it may be argued that the committee should allow a patient a right to be heard to ensure that its decisions are fair. Under the proposed Uniform Act, the decision as to who should receive the heart is left to the doctors. Note, supra note 55, at 373.
[63] This was the decision made by the Seattle committee. H. Schmeck, supra note 59, at 47. At least one case has been reported where a person with the finances necessary to pay the cost of the treatment has been unable to buy it anywhere. Id. at 63.
[64] Dr. Barnard works on a salary in a hospital which does not charge the patients. He admits that the patients who are wealthy probably will be better able to secure the best medical care, but he argues that heart transplants are really no different from any other medical advance and that the availability of the treatment to low income people is
simply underwrite the cost of all transplants performed within its jurisdiction and prohibit contributions to the hospital or surgeon by the patient or his near relatives. The cost might not be too great until the operations became very common, but doctors would probably fear State control of patient selection under such a plan. Another possible answer could be legislation which would add coverage for transplant surgery to each person's hospitalization insurance at a modest cost, thus spreading the cost over a broad base. An insured individual would thus get a transplant, in the event he needed one, without additional cost.

B. Will Consent to the Operation Sufficiently Protect the Donee?

It is extremely difficult for the transplant surgeon to evaluate the likelihood that the technique will offer a more favorable prognosis than some more conventional treatment, and it is even more difficult to explain the risks to the patient or his relatives. The consent of the patient must be "informed," that is, it must be given after he or his relatives have been apprised of the risks of the medical procedure, and the duty to inform is even more stringent where the procedure is new or experimental. The law, however, should recognize that there may be medical reasons for withholding some information from a patient. Even the most liberal view would require the surgeon to make the "disclosures which a really no more limited than that of any other type of surgery. NBC Special, transcript at 17.

When heart preservation techniques become improved, potential donees may attempt to financially induce donors to execute instruments of donation. In fact, because of the scarcity of hearts and their possible economic value, relatives may fight the estate for the "property" so that they can sell the donor's heart themselves. Even creditors might seek to obtain a heart as property or proceeds from the sale thereof in satisfaction of a debt. This could produce trust, estate, and other problems.


67 An eminent Cleveland anesthesiologist who is also an attorney has stated that: "When the operation or method of treatment is new and experimental in nature, that the physician not be negligent in his duty becomes more imperative. . . . The duty to forewarn the patient and/or his family in this situation becomes absolute." Wasmuth, "Informed Consent: What Is It?, 46 ANESTHESIA & ANALGESIA 698, 701 (1967).
sonable medical practitioner would make under the same or similar circumstances.69 Most courts examine what disclosures the physician made in obtaining consent and apply a test of reasonableness,70 but one court has gone so far as to require that the patient have given his consent "with a true understanding of the nature of the operation to be performed."71 A court hostile to heart transplantation might apply this stringent standard in weighing a patient's consent to an operation. Such a rule is of dubious value because of its stifling effect on medical progress.72

Even if the transplant surgeon fully discloses all of the risks, he must believe the operation necessary and have confidence in his ability to perform it successfully. He will, therefore, have an unconscious, or perhaps even conscious, tendency to "sell" the operation to the patient or his next of kin, especially where there is so much for him to gain professionally and financially. For this reason a scrupulously ethical transplant surgeon might delegate the duty of obtaining consent to some member of his staff or to the patient's own personal physician.73 This delegation should not invalidate the patient's consent so long as the informing physician was competent to provide the necessary information.74

With an experimental procedure such as heart transplantation, even a strict informed consent rule may be insufficient to protect the patient75 who may unwisely consent despite a complete appraisal of the risks. For this reason, it has been suggested that a medical committee be created to approve the application of experimental techniques to patients.76 The committee would expertly and impartially evaluate the patient's need for a transplant and the probability of its success, weighing such factors as the ability and experience of the transplant team, the state of development of the technique, and the patient's general physical condition. This pro-

70 18 W. RES. L. REV. 1018, 1021 (1967).
72 18 W. RES. L. REV. 1018, 1023 (1967).
73 Dr. Shumway had nothing to do with getting Kasperak's consent. It was handled by a member of his team and Kasperak's physician. Lear, supra note 62, at 56.
74 See text accompanying notes 65-73 supra.
75 Note, supra note 65, at 114.
procedure is probably too cumbersome for heart transplant cases, due to the present necessity for speed, but perhaps such a committee could be used to determine the qualifications to be met by a transplant team before they would be permitted to operate.

Another possible means of protecting the patient would be the use of a "monitor" physician who would be responsible for the welfare of a patient but would have no other stake in the work of the research team. This type of proposal could be implemented at present either by legislation or by an ethical pronouncement of the medical association. This would put considerable responsibility in the patient's monitor physician. If the monitor was the donee's personal physician, however, he might be unfamiliar with modern surgical techniques and thus might, if he had the power, choose more conventional treatment. In this respect the medical committee approach would be better because it could be composed of experts.

The monitor approach might be used until the committee method becomes feasible. Actually, by the time the screening committee becomes practical, the operative technique could be developed to the point where the decision whether to operate can be worked out between the surgeon and the patient or his next of kin.

C. Should the LawPrescribe Tissue-Matching Standards?

The major factor hampering successful heart transplantation is the physiological mechanism of the human body which both defends a person against infection and causes the rejection of foreign tissue. There are two ways to prevent the patient's rejection of the new organ because of an immune reaction: (1) by careful matching of the tissues in the organ being donated with the tissues in the organ being replaced, and (2) by the use of immunosuppressive drugs.

Since the speed demanded by a kidney transplant is not as great as in the case of a heart transplant, there is more time for doctors to perform the tests and to wait for a "matching" donated kidney. Even with the added time to undertake tests of histocompatibility, kidney transplants are frequently performed, often successfully,

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78 H. Schmeck, supra note 59, at 112.
79 Id. at 124-30.
80 Radiation has also been used to suppress the reaction. Id. at 120-24.
without tests. Of course, kidneys are frequently donated by living donors closely related to the recipient, which minimizes the chance that the tissues will not match. Further, kidney patients are probably able to stand much larger doses of immunosuppressive drugs than heart patients, according to Dr. Shumway. Dr. Barnard has admitted that Louis Washkansky died of "pneumonia possibly complicated by immuno-suppressive therapy" which might have destroyed the defenses which his body would have employed to fight off the virus.

Heart transplant surgeons are faced with a dilemma. They have little or no time to perform histocompatibility tests on the two hearts, yet are aware that the use of massive doses of immunosuppressive drugs may substantially weaken the resistance of the heart patient to infectious complications. Perhaps under these circumstances heart transplant surgery on human beings should simply be prohibited, at least temporarily, because the small likelihood of success does not justify the risk that the patient's life will actually be shortened due to the operation. Likewise, unsuccessful heart transplant surgery may raise false hopes and cause a great degree of suffering and grief to the next of kin. To prohibit

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81 Cf. J.A.M.A., Jan. 8, 1968, at 31, 32, 38. On the other hand, four early kidney transplant donees developed terminal cancer from organs taken from donors afflicted with cancer. One, however, survived which may prove that the "body's immunological processes may cast out cancerous tissue in the same way that they reject any transplanted tissues when immunosuppressive drugs are not used." TIME, Mar. 8, 1968, at 53, 54. This may have implications for heart transplants.

82 H. SCHMECK, supra note 59, at 143.


84 Id.

85 It is interesting to note the differences in the way the immunosuppressive drugs were used by Dr. Barnard and Dr. Shumway. Dr. Barnard used massive doses of drugs on Washkansky to prevent rejection even before symptoms appeared. Dr. Shumway attached an electrocardiograph electrode to Kasperak's heart and administered only a minimal dosage of drugs. He had learned the dangers of the drugs in his experiments with dogs and had developed a method of using the electrocardiograph to alert him to rejection. He gave large doses of the drugs only after the symptoms appeared. Dr. Barnard did not use the electrocardiograph system, but he did reduce the drug dosage in Dr. Blaiberg's case. Lear, supra note 62, at 56-57.

86 The National Academy of Sciences' Board on Medicine has urged restraint in performing heart transplants. Dr. Walsh McDermott, the group's chairman, points out that many surgeons have the skill required to perform the operation itself, but that few have the range of knowledge or the research team necessary to accomplish a successful transplant. N.Y. Times, Feb. 28, 1968, at 25, col. 1 (city ed.). Leaders of the American College of Cardiologists have called for a 3- to 6-month moratorium on transplants to allow the results of the first group of operations to be analyzed and assimilated. Cleveland Plain Dealer, Mar. 2, 1968, at 1, col. 5. The time may not yet have arrived when heart transplantation should be sanctioned and encouraged by the law. Lear, supra note 62, at 57.
heart transplantation altogether would undoubtedly delay the successful development of the transplant technique. Such a decision should yield to proposals to limit the number of these operations to those which have reasonable prospects of success.

One such proposal is that histocompatibility standards be prescribed by law. There are two major objections to this idea. First, there is the time problem which has been mentioned. Second, the weight of medical opinion seems to be that no standard could or should be set because the technique is new and there is a need for flexibility to permit development.

Given the emergency nature of heart transplantation, it would seem that unless it is found necessary to stop such operations altogether, no histocompatibility standards should be set by law. Either the medical screening committee or the monitor can expertly consider the histocompatibility problems in deciding what is in the best interest of the patient. This type of solution will permit needed flexibility, since if histocompatibility data is available and favorable, the prognosis will be improved. Further, the committee or monitor would be more likely to permit the transplant if the surgeon had worked out a system requiring small drug dosages or if the patient were physically able to withstand large drug doses. This plan requires a more objective evaluation of the need and prospects for the operation without preventing the development of the technique for the benefit of all heart patients.

D. The Publicity Problem

Until heart transplants become quite common it is likely that each such operation will be highly publicized. The publicity will probably not harm the patient's chances of recovery since he can be isolated from it if he or his doctor so desire. Indications are that Dr. Blaiberg, rather than avoiding publicity, sought to profit financially from the media's greed for exclusive news coverage.

On the other hand, the publicity factor puts a great strain on the families of the heart recipients and on the surgeon himself.

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87 See text accompanying note 81 supra.
89 See notes 76-78 supra and accompanying text.
90 NEWSWEEK, Jan. 15, 1968, at 49.
91 Dr. Barnard attempted to prevent the massive surge of publicity surrounding the Washkansky operation but he fought a losing battle. He estimates that 16 of the 18 hours he is awake daily are spent handling the press and only two in treating patients. NBC Special, transcript at 28-31.
Dr. Barnard feels that the public which contributes funds to support medical research is entitled to be kept up to date on new developments.92 However, medical researchers can and should exercise restraint in releasing information about new and unproven techniques.93 Because of the obvious conflict between this right to know and the freedom of the press to provide information on one side and the rights of the patient, his family, and the surgeon to privacy on the other side, some compromise is necessary. It would be difficult to legislate solutions to this problem, and by the time such legislation could be made effective, the need would probably be over. It seems best to permit these problems to be adjusted by the doctors and the news media, and indications are that the problem is being recognized and attacked in this way.94

III. CONCLUSION

Heart transplantation, at its present low level of sophistication, is merely a promising method of treatment for use in some situations.95 The development of this technique should be encouraged and ways must be found to make certain that it is used wisely.

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92 Id. at 30.
93 Dr. Irvine Page has urged medical researchers to restrain themselves with respect to announcements about the prospects for their new and unproven techniques. Page, supra note 65. Dr. Donald Effler expressed similar views in a letter to the Saturday Review. SATURDAY REV., Feb. 3, 1968, at 64 (letter to the editor).
94 SATURDAY REV., Feb. 3, 1968, at 64 (letter to the editor).
95 Lear, supra note 62, at 54.